



Third West Weekly Report Shepherd, Michael

to:

Joyce Ackerman, 'Craig Barnitz (cbamitz@utah.gov)' 06/21/2012 07:54 AM

Hide Details

From: "Shepherd, Michael" < Michael. Shepherd@rockymountainpower.net>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Bamitz (cbamitz@utah.gov)" <cbarnitz@utah.gov>

7 Attachments









Weekly Report 06-11 to 06-15-12.pdf Third West Weekly Log 2012-24.pdf 237804-1.pdf 237906-Lpdf 238014-r.pdf





238163-1.pdf 238260-1.pdf

Joyce & Craig,

Attached are the reports for the week of June 11, 2012.

All air monitoring results came back negative, except for chrysotile hits on Tuesday and Friday last week.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
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801.220.2797 Fax
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3RD WEST SUBSTATION REMEDIATION PROJECT HEALTH SAFETY MANAGER (HSM)

		DAILT CHECKLIST
DATE	:	06/11/12
Ge	eneral	
		rea Health and Safety Inspection
NA		Review and innecessary update Activity Hazard Analyses (AHA) based on planned site
1 17		activities for the day
Ø		Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	A	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	A	Complete Employee Meeting Record Form B (where applicable)
NA	4	Document required Respirator Training completion with Form H
NA		Record times and numbers of dump tmcks and trailers as they leave the site with contaminated material.
NA		Confirm return of waste material manifest documents for each load with site manager.
NA		ete all CSHASP Forms (for applicable activities planned for that day)
	NA .	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
		Exclusion zone operations are practiced as instructed.
		Decontamination unit is working properly.
		Workers are using decontamination unit as instructed.
		Workers use personal protective equipment properly.
☑		Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation
		sites and track out prevention.
\square		Review sign-in/sign-out log throughout and at the end of the workday.
\square		Secure the site at the end of the workday
Sa	mpling	
NA ☑	Soil Co	onfirmation sampling for any newly excavated areas Stationary Air Monitoring during contaminated soil removal around the perimeter of the

NA	Soil C	onfirmation sampling for any newly excavated areas
Ø		Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA		Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA		Digitally photograph each sample location and at any place field sampling personnel determined necessary





Ø	Electronically file photo files into the on-site database
	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
	Logbook
$\overline{\mathbf{Q}}$	On-site computer database
	Label each sample media with a unique number
₹	Seal sample(s) in zip lock plastic bags
\square	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: <u>06/11/12</u>		
Location: 3rd West, 1st South, SLC	Job Number:		
Survey Conducted By: <u>Justin Kargis</u>	Title:	3	

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	,
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			u .

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	x			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date Teston Taken and
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			*
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	· ·
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	1 to 1 to 1
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

ý

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	* x
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	×		х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone active while excavations took place.

Newman washed out two truckloads of native material. Newman and CVE continued to work in the conduit trench to capacitor banks.

CVE worked on buss connections from bay 2 to switch gear.

Weather was warm, sunny and dry with temperatures in the mid 80's



NA

determined necessary



3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

		DAIL I CHECKLIST
DATE	:	06/12/12
Ge	neral	
$\overline{\mathbf{N}}$	Work a	area Health and Safety Inspection
NA	\	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
		activities for the day
☑	•	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	\	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	\	Complete Employee Meeting Record Form B (where applicable)
NA	\	Document required Respirator Training completion with Form H
NA		Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA		Confirm return of waste material manifest documents for each load with site
	•	manager.
NA	Compl	ete all CSHASP Forms (for applicable activities planned for that day)
	NA	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
		Exclusion zone operations are practiced as instructed.
		☑ Decontamination unit is working properly.
		Workers are using decontamination unit as instructed.
		Workers use personal protective equipment properly.
☑	,	Set air samples at cardinal compass points around exclusion zone. Check
		throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation
		sites and track out prevention.
☑		Review sign-in/sign-out log throughout and at the end of the workday.
☑		Secure the site at the end of the workday
<u>Sa</u>	mpling	
NA	Soil C	onfirmation sampling for any newly excavated areas
\square		Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
N/	4	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil

Digitally photograph each sample location and at any place field sampling personnel





Ø		Electronically file photo files into the on-site database
Ø		Complete Field Documentation
	\square	Field Sample Data Sheets (FSDS)
		Logbook
		On-site computer database
		Label each sample media with a unique number
Ø		Seal sample(s) in zip lock plastic bags
Ø		Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Ø		Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
Ø		Review and disseminate sample results as received from the laboratories to Project
_		Manager and other appropriate managers and employees
\mathbf{A}		Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 06/12/12		
Location: 3rd West, 1st South, SLC	Job Number:		
Survey Conducted By: Justin Kargis	Title:		

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	Dute
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.		,	X	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			-

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		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date.
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone suspended today.

Newman continued working on conduit to capacitor bank. They dug out areas for ground mats at both west entrances. The north entrance appeared to be clean fill while the south was a mix of different materials. Trace amounts of components found in vermiculite were visible in this area and it was kept wet. Newman brought in an extra crew for 6/12-14 to spread and compact road base in the north arm of the yard.

CVE worked on assembling ground mat at north gate apron.

Weather was hot, dry and sunny with light afternoon winds and high temperatures in the mid 80's.





3RD WEST SUBSTATION REMEDIATION PROJECT HEALTH SAFETY MANAGER (HSM)

	DAIL I CHECKLIS I
DATE:_	06/13/12
Cana	· aral
Gene NA V	Vork area Health and Safety Inspection
NA V	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
I I A	activities for the day
Ø	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
, NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA C	Complete all CSHASP Forms (for applicable activities planned for that day)
N	IA Illness/Injury Report Form A
N	IA Site-Specific Training Record Form C
N	IA Hot Work Permit Form D
N	Trench/Evacuation Permit Form E
N	IA Combined Space Entry Permit From F
	Exclusion zone operations are practiced as instructed.
	☐ Decontamination unit is working properly.
	Workers are using decontamination unit as instructed.
	Workers use personal protective equipment properly.
V	Set air samples at cardinal compass points around exclusion zone. Check
•	throughout the day to ensure proper operation.
	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
$\overline{\mathbf{V}}$	Review sign-in/sign-out log throughout and at the end of the workday.
V	Secure the site at the end of the workday
Sam	pling
NA S	soil Confirmation sampling for any newly excavated areas
I	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel





☑		Electronically file photo files into the on-site database
V		Complete Field Documentation
	\square	Field Sample Data Sheets (FSDS)
		Logbook
	abla	On-site computer database
		Label each sample media with a unique number
\checkmark		Seal sample(s) in zip lock plastic bags
☑		Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
☑		Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
☑		Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
☑		Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 06/13/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: Justin Kargis	Title:

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			9
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	,
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.	÷		х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.	X		x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
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Standard	Title				Date
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1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x		E	
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.		21	х	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.		-	x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

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Standard	Title				Date
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1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
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1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
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1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone suspended today.

Newman continued compacting road base in the north arm of the yard and worked with CVE to pour FTB in the conduit trench going to the capacitor banks. They watered part of the EZ before leaving for the day. All work in the EZ was done without suiting up and disturbance of native material was minimized. CVE line crew continued working on buss from bay 2 transformer to switch gear.

Weather was hot, dry and windy in the afternoon. with high temperatures in the high 80's.



determined necessary



3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

		DAIL I CHECKLIST
DATE	:	06/14/12
Car	<u>neral</u>	
		rea Health and Safety Inspection
NA NA		Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
11/1	`	activities for the day
☑		Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA		Site hazard and safety instruction for all first time employees, contractors or visitors
NA		Complete Employee Meeting Record Form B (where applicable)
NA	L	Document required Respirator Training completion with Form H
NA		Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA		Confirm return of waste material manifest documents for each load with site
		manager.
NA	Comple	ete all CSHASP Forms (for applicable activities planned for that day)
	NA	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
		Exclusion zone operations are practiced as instructed.
		Decontamination unit is working properly.
		Workers are using decontamination unit as instructed.
		Workers use personal protective equipment properly.
☑	•	Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
	,	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
I		Review sign-in/sign-out log throughout and at the end of the workday. Secure the site at the end of the workday
Saı	mpling	
NA	Soil Co	onfirmation sampling for any newly excavated areas
\square	5011 00	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA	Λ.	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	1	Digitally photograph each sample location and at any place field sampling personnel





Ø		Electronically file photo files into the on-site database
Ø		Complete Field Documentation
	\square	Field Sample Data Sheets (FSDS)
	\square	Logbook
	\square	On-site computer database
		Label each sample media with a unique number
		Seal sample(s) in zip lock plastic bags
Ø		Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Ø		Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
\square		Review and disseminate sample results as received from the laboratories to Project
		Manager and other appropriate managers and employees
团		Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: <u>06/14/12</u>		
Location: 3rd West, 1st South, SLC	Job Number:		
Survey Conducted By: _Justin Kargis	Title:		

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	Date
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date Teston Tuken und
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.		ē	х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			х	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.		8	х	
1926.403 (b)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	·
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х	2		
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a)	Bi-directional earth moving equipment shall have audible alarms.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone active while excavations took place.

Newman washed out 2 trucks in the morning. They watered some of the exposed native material in the exclusion zone in the afternoon. Most of the native material has remained wet except for

CVE covered excavation at south west gate with clean fill and plastic after wetting the area while setting ground grid.

Weather was hot, dry and windy in the afternoon with high temperatures near 90.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

		DAILT CHECKLIST
DATE:		06/15/12
Ger	<u>neral</u>	
		rea Health and Safety Inspection
NA		Review and in necessary update Activity Hazard Analyses (AHA) based on planned site
1 17 1		activities for the day
☑		Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior
		to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA		Site hazard and safety instruction for all first time employees, contractors or visitors
NA		Complete Employee Meeting Record Form B (where applicable)
NA		Document required Respirator Training completion with Form H
NA NA		Record times and numbers of dump trucks and trailers as they leave the site with
IIA		contaminated material.
NA		Confirm return of waste material manifest documents for each load with site
IIA		manager.
NA		the all CSHASP Forms (for applicable activities planned for that day)
	NA	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA.	Hot Work Permit Form D
	NA NA	Trench/Evacuation Permit Form E
	NA	
	INA.	Combined Space Entry Permit From F
		Exclusion zone operations are practiced as instructed. Decontamination unit is working properly.
		Workers are using decontamination unit as instructed.
		Workers use personal protective equipment properly.
\square		Set air samples at cardinal compass points around exclusion zone. Check
		throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation
		sites and track out prevention.
		Review sign-in/sign-out log throughout and at the end of the workday.
		Secure the site at the end of the workday
Sar	npling	
<u>54.</u>	<u></u> 5	
NA	Soil Co	onfirmation sampling for any newly excavated areas
		Stationary Air Monitoring during contaminated soil removal around the perimeter of the
		exclusion zone
NA		Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil
		removal
NA	k.	Digitally photograph each sample location and at any place field sampling personnel
		determined necessary





\square	Electronically file photo files into the on-site database
$\overline{\mathcal{A}}$	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
abla	Logbook
	On-site computer database
$\overline{\mathbf{V}}$	Label each sample media with a unique number
$\overline{\mathbf{V}}$	Seal sample(s) in zip lock plastic bags
\square	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
$\overline{\mathbf{Z}}$	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
\square	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 06/15/12		
Location: 3rd West, 1st South, SLC	Job Number:		
Survey Conducted By:	Title:		

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х	100		
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.		N.	x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	-
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			*
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x	3		
1926,501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a)	Bi-directional earth moving equipment shall have audible alarms.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	4,		x	*
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone active while excavations took place.

Newman washed out 5 trucks throughout the day. They watered most of the exposed native material in the exclusion zone in the afternoon. They also helped cover the ground mat placed at the south west gate with clean fill.

CVE finished ground mat at south west gate.

Weather was hot, dry and breezy in the afternoon with high temperatures around 90.



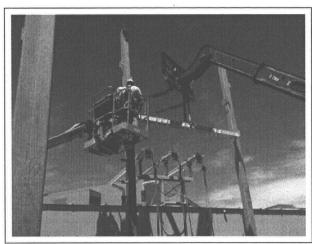
РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

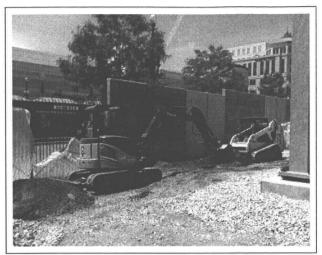
47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

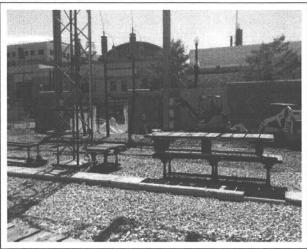
DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 06/11/12	FILE:	

SITE PHOTOGRAPHS

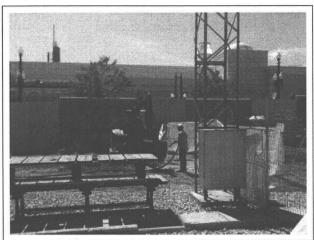




РНОТО 1



РНОТО 2



РНОТО 3

47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

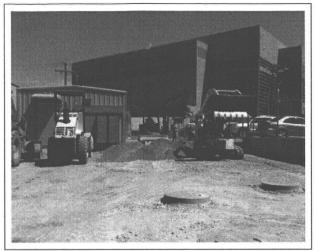
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DRAWN BY: JMK	DATE 06/12/12	FILE:	

SITE PHOTOGRAPHS

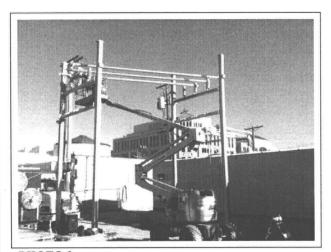




РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

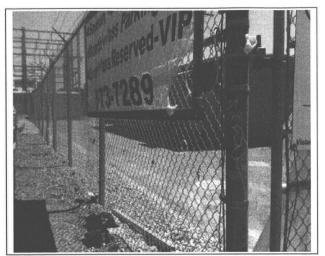
47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 06/13/12	FILE:	

SITE PHOTOGRAPHS





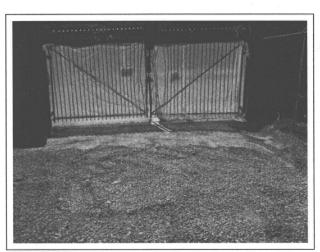
РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 06/14/12	FILE:	

SITE PHOTOGRAPHS

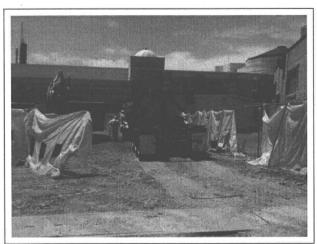




РНОТО 1



РНОТО 2



РНОТО 3

47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 06/15/12	FILE:	

SITE PHOTOGRAPHS



PACIFICORP OPERATIONS - Field Construction Representative Daily Log PROJECT NAME: Third West Sub - Rebuild DATE: Monday, June 11, 2012 MAIN CONTRACTOR: Cache Valley Electric PO & Work Order NO. : 3000078050 / 10035803 Crew Start Time: 6:55 Crew Stop Time: 17:00 Tot Hrs mns: 10:05 17:10 FCR Stop Time: FCR Start Time: 6:38 10:32 Tot Hrs mns: Use military time format 00:00 **WEATHER CONDITIONS:** Sunny - 55 degrees in AM, 77 degrees in PM DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. CVE Line Crew worked on assembling the 12 kV cap banks and started framing up the new bus structure between Xfmr #2 and the switchgear. CVE Fab Crew not on site today. Newman loaded out two loads of material, for a total of 294, for delivery to Clean Harbors and excavated for the capacitor bank duct banks from vault #6. Kinetics, a testing company was on site with Alan Bezzant to perform a PD (partial discharge) test on the Jordan 138 kV line for Southwire. CVE Line Crew = 3, CVE Fab Crew = 0, CVE Electrical Crew = 0, Newman = 3, R&R = 1. IF WORKING IN ENERGIZED SUBSTATION: Didn't get a name - 0638 Dispatcher login, name and time: Dispatcher logout, name and time: Gus Montanez - 1714 DISCREPANCIES: IMMEDIATE CORRECTIVE ACTION TAKEN: DELAYS OR LOST TIME ENCOUNTERED: EQUIPMENT (working, delivered, idle):

CVE Line Crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer. Newman:

Rocky Mountain Power

OSHA Recordable Safety Incidents:

trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe.

Russ Johnson

Field Construction Representative

Reported by:

Time:

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub -	Rebuild	DATE: Tuesday, June 12, 2012						
PO & Work Order NO. :	3000078050 / 100	035803	MAIN CONT	RACTOR:	Cache Valle	y Electric			
Crew Start Time:	5:55	Crew Stop Time:	17:00)	Tot Hrs mns:	10:05			
FCR Start Time:	6:42	FCR Stop Time:	17:05	5	Tot Hrs mns:	10:23			
Use military time format 00:00					•				
WEATHER CONDITIONS:		Sunny - 51 degre	es in AM, 82	degrees in f	PM				
DESCRIPTION: (work performe									
R&R set up four monitors. CVE Line extensions on the cap bank getaway s Newman excavated for the northwest completed the PD test on the Jordan Newman = 3, R&R = 1.	stmctures that will allow and southwest gates g	v the conduits to miss round grid and placed	the foundations. insulated platfor	CVE Fab Crons in the 46	ew not on site t kV yard. Kined	oday. trics			
IF WORKING IN ENERGIZED SU	IDETATION.								

Dispatcher login, name and time:	Bob Gentry - 0642								
Dispatcher logout, name and time:	Gus Montanez 1713	•							
DISCREPANCIES:			IMMEDIATE C	ORRECTIV	E ACTION TA	KEN:			
			•			İ			
						-,			
	 								
DELAYS OR LOST TIME ENCOL	JNTERED:								
					•				
EQUIDAÇAT (acception of all the	4 :41								
EQUIPMENT (working, delivered CVE Line Crew: Portable toilet (2), forklift trachoe (1), bobcat, mini-ex, water truck,	t, 1 dumpster, office traile	r, conex , exclusion zone	conex (2), tool trai	iler, Pickup, Jl	.G (1), tool trailer	Newman:			
OSHA Recordable Safety Incide	nts:	 , ,		Reported	by:	Time:			
					-				

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PROJECT NAME: Third West Sub - Rebuild Wednesday, June 13, 2012 DATE: 3000078050 / 10035803 MAIN CONTRACTOR: Cache Valley Electric PO & Work Order NO.: Crew Start Time: Crew Stop Time: 17:00 Tot Hrs mns: 6:30 16:00 FCR Start Time: FCR Stop Time: Tot Hrs mns: Use military time format 00:00 **WEATHER CONDITIONS:** Sunny - 51 degrees in AM, 85 degrees in PM DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. CVE Line Crew placed ground rods in the south gate ground grid and the north gate ground grid. CVE Fab Crew not on site today. Newman secured the conduits in the cap bank duct bank and placed 18 cyds of FTB around the conduits. They delivered road finish rock to the site and began placing same in the area around the control building and along the north side of the switchgear. They placed the trex material across the gate apron on the south side of the yard. CVE Line Crew = 2, CVE Fab Crew = 0, CVE Electrical Crew = 0, Newman = 6, R&R = 1, Wilding = 1. IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Jim Bowman 0650 Dispatcher logout, name and time: Val Christensen 1700 DISCREPANCIES: IMMEDIATE CORRECTIVE ACTION TAKEN: **DELAYS OR LOST TIME ENCOUNTERED:** EQUIPMENT (working, delivered, idle): CVE Line Crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer. Newman: trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe. Time: OSHA Recordable Safety Incidents: Reported by:

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

Rocky Mountain Power

Russ Johnso

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West	Sub - Rebuild	DATE : Th	2012	
PO & Work Order NO. :	300007805	60 / 10035803	MAIN CONTRACTO	R: Cache Valle	ey Electric
Crew Start Time:	6:50	Crew Stop Time:	16:55	Tot Hrs mns:	10:05
FCR Start Time:	6:38	FCR Stop Time:	17:05	Tot Hrs mns:	10:27
Use military time format 00:00	0.00	TOROLOP TAILC.			10.27
WEATHER CONDITIONS:		Sunny - 59 degree	s in AM, 82 degrees	in PM	
DESCRIPTION: (work perform	ned, general co	mments, instructions to c	ontractor, # of crew r	nembe rs ons ite	.)
R&R set up four monitors. CVE Lingrid. CVE Fab Crew not on site tod areas. Newman started grading the Crew = 0, CVE Electrical Crew = 0	lay. N ewman bac e east and south ro), N ewman = 7, F	kfilled the capacitor bank duct loadways in preparation for plac	bank and continued placi	ng road finish rock	in the north
Dispatcher login, name and time:	Barry Nielson	0638			
Dispatcher logout, name and time:	Kim Batt 1731				
DISCREPANCIES:			MMEDIATE CORREC	TIVE ACTION TA	KEN:
·					
				·	
	·····				
DELAYO OF LOCATIVE ENGL	OUNTERER	<u> </u>	·		
DELAYS OR LOST TIME ENC	DUNTERED:				
EQUIPMENT (working, deliver					
CVE Line Crew: Portable toilet (2), for trachoe (1), bobcat, mini-ex, water truck			conex (2), tool trailer, Picku	o, JLG (1), tool trailer	r. Newman:
OSHA Recordable Safety Incid	dents:		Report	ed by:	Time:
			115,50,10		

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log PROJECT NAME: ____ Third West Sub - Rebuild DATE: Friday, June 15, 2011 3000078050 / 10035803 PO & Work Order NO.: MAIN CONTRACTOR: Cache Valley Electric Crew Stop Time: Crew Start Time: 6:55 16:20 Tot Hrs mns: FCR Start Time: 6:34 FCR Stop Time: 16:30 Tot Hrs mns: Use military time format 00:00 **WEATHER CONDITIONS:** Sunny - 62 degrees in AM, 86 degrees in PM DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. CVE Line Crew (qualified person) placed, and completed the ground grid at the southwest gate in the 46 kV vard. CVE Fab Crew not on site today. Newman loaded out 4 loads of material to Clean Harbors for a total of 298. CVE Line Crew = 1. CVE Fab Crew = 0, CVE Electrical Crew = 0, Newman = 4, R&R = 1. IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Jim Bowman 0634 Dispatcher logout, name and time: ???????? 1630 DISCREPANCIES: IMMEDIATE CORRECTIVE ACTION TAKEN: **DELAYS OR LOST TIME ENCOUNTERED:** EQUIPMENT (working, delivered, idle): CVE Line Crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer. Newman: trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe.

Rocky Mountain Power

OSHA Recordable Safety Incidents:

Russ Johnson

Field Construction Representative

Reported by:

Time:



June 13, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 237804-1 None Given

Project Description:

3rd West Sub - RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 237804-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 237804-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

June 12, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

June 12, 2012

Client ID Number	Lab ID Ni	umber	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-061112 W	EM	886074	0.0900	9 2 5	ND	0.0046	BAS	BAS
3W-061112 N	EM	886075	0.0900	9 2 5	ND	0.0046	BAS	BAS
3W-061112 E	EM	886076	0.0900	9 2 5	ND	0.0046	' BAS	BAS
3W-061112 S	. EM	886077	0.0900	923	ND	0.0046	BAS	BAS
NA = Not Analyzed			Filter Materia	al = Mixed Ce	Ilulose Ester		by Elane Elevran	
ND = None Detected			Filter Diame	ter = 25 mm			ON CH - Eiste Elemen, C - US. O - Reservoirs	
BAS = Below Analytica Average Grid Opening		0.010	Effective Filt	er Area = 385	sq mm		Environmental, Inc., Dank 2012 05 13 10 alls 17 -0500*	

REILAB RESERVOIFS Environmental, Inc. 801 Logan St Denver, CO 80216 • Ph; 303 864-1988 • Fax 303-477-4275 • Toll Fiea : S66 RESI-ENV

Pager: 303-509-2098

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Page	3	ា		
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		INVOICE TO: (IF	DIF	FERE	NT)									С	ONTA	T IN	FOR	MATIC	N:				
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Spindy, W. 84070							Fax:										Fax						
							Cell/p	ager (t	Ot:	541	-6	239	5_				Celve	ager.					
Project Number and/or P.O. #:								Data O	all va ral	ola Erna	all Add	roas:											
Project Description/Location: 3 23 West Sub - RN	np]	du	e (8 14	en	vir	0.0	on									
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5									П						1								7
6						74 1					7				174			y yer.			144	44.11	
7						7			Π	17													
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9												7		7									
10			12.0				,3 7													- 62.5			
Number of samples received:		ples shall be listed on																			 		لسنبيد
NOTE: REI will analyze incoming samples based upon information reca analysis as indicated on this Chain of Custody shall constituts an analysi	itvod and will not be responsible ical services agreemem with pa	e for emors or ordissions in c syment torms of NET 30 day	alculat s, fallu	ions resi ire to coi	ulting fr mply wi	om the th payn	inaccu nent ter	acy of c	riginal reauli	data. £ in a 1.6	3y sig 6% m	ntng c onthly	lient/c	ompany r st surcha	epresenta ige.	ivo agr	ees tha	at submiss	ion of	the following sa	mples for re	quested	
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1426 647 1112

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	$\mathbf{B}_{\cdot} =$	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
T	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

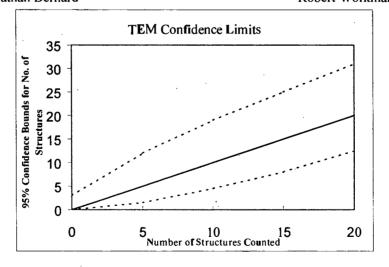
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jearme S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX) 10KX
Grid opening area (mai2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2) Secondary Filter Area	385
(mm2)	
QA Type	

1210 710000103 01100	tuio ordint
Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	925
Date received by lab	6/12/12
Lab Job Number:	237804
Lab Sample Number:	886074
	I —————

F-Factor Calculation (Indirect Preps Only):					
Fraction at primary Ilitsr used					
Total Resuspension Volume (ml)					
Volume Applied to secondary filter (mi)					

Analyzed by	JB
Analysis date	6/12/12
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	≃ no
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	L5-4	NO				Ry	D A	~ 70%	int	ut	5/2 delar			
	K5-4	NO		 		Ba	073	~500/	ml	ent	5 % Sela	ers.		
	H5-4	ND						· 				 		
	615-4	ND							b					
	F5-4	ND		·	·		·	-/	1/5	6/CZ	1/2			
13	936	ND												
	F3-6	ND												
	604-4	ND												
	F4-4	ND												
					·									

Reservoirs Environmental, Inc. TEM Astrestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX LOKX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
OA Type	

Client :	R+R				
Sample Typo (A=Air, D=Dust):	A				
Air volume (L) or dust area (cm2)	925				
Date received by lab	6/12/12				
Lab Job Number	237804				
Lab Sample Number:	886075				
•					

F-Factor Calculation (Indirect Preps (Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

	
Analyzed by	JB
Analysis date	6/12/12
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Dlme	nstons	Identification	Mineral Class				1 = y	es, blank	= no
·	Gra Opening	Туре	Primary	Total	Length	Width	racrumeation	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	=3-1	ND				P	p A	70 Tunh	1	5%	lebus			
	E3-1	ND				Rus	OB	80 chunh	+	0/	lebus			
	C3-1	N						A	<u></u>	<i></i>				
	54-4	CV						4	6/12	12				
	64-4	M						//	//					
B	164-1	ND				·								
	H4-1	ND												
	64-1	ND			,									
	F4-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

P	age	1	of	

Reservoirs Environmental, Inc. TEM Astrestos Structure Count

1	,
Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
	ZOKX) LOKX
Magnification	20100 10100
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	•
QA Type	

R+R
A
925
6/12/12
237804
886076

F-Factor Calculation (Indirect Preps C	Only):				
Fraction of primary filter used					
Total Resuspension Volume (ml)					
Voluma Applied to secondary filter (mi)					

Analyzed by	JB
Analysis date	6/12/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	, D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

Grid	Grid Opening	Structure	No. of St	uctures	Dimer	nsions	Identification	Mineral Class				1 = yes, blank = no		= no
		Туре	Primary	Total	Length	Width		Amphibale	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	36-6	MD							.					
	E36	M			Par	o A	80	The un has	6	5%	Lebus			
	036	ND			Pan	OB	90	Parshur	F 3	- /	Loris			
	133-6	20						at the same of the		1				·
	C4-4	ND						113	6/12	12		·		
B	64-1	ND				,								
	F4-1	ND						·						
	E4-1	ND			·									
	C4-1	M												

Reservoirs Environmental, Inc. TEM Aspestos Structure Count

Client:	RAR
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dusi area (cm2)	92\$3 4
Date received by lab	6/12/12
Lab Job Number:	237804
Lab Sample Number:	886077

	Analyzed by	T	3
	Analysis date	6/12	12
-	Method (D=Direct, l=Indirect, iA=Indirect, ashed)	D'	
	Counting rules (ISO, AHERA, ASTM)	AH	
	Grid storage location	Month An	alyzed
	Scope Alignment	Date Ana	alvzed

Laboratory name:	REI
Instrument	JEOL 100 CX N(S)
Voltage (KV)	100 KV
Magnification	20KX)10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filler area (mm2)	385
Secondary Filter Area	300
(mm2) QA Type	

F-Factor Calculation (Indirect Preps	F-Factor Calculation (Indirect Preps Only):						
Fraction of primary litter used							
Total Resuspension Volume (ml)							
Volume Applied to secondary filter (ml)							

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	Dimensions Identific		Identification Mineral Class			1 = ye	s, blank	≃ no	
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	14-4	ND				P	p A	80 /m		! 5	10% dela	rs		
	64-4	ND		•		Ru	B	90 open	but	<u> </u>	nor	un		
	1-4-4	ND												
	E4-4	NO							13	6/2	2/12			
	4-4	MD						7	7		/			
B	H3-6	ND						/				·		
	636	ND												
	F3-6	MD												
	E36	ND				<u> </u>						·		
								-						

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



June 14, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 237906-1 None Given

Project Description:

3rd West Sub - RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. Is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 237906-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0016

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 237906-1

Client:

Client Project Number / P.O.:

R & R Environmental None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

June 13, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

June 13, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID Ni	umber	Analyzed	Analyzed Volume Sampled		Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-061212 W	EM	886246	0.0800	969	ND	0.0050	BAS	BAS
3W-061212 N	EM	886247	0.0900	959	2	0.0045	0.0089	22.2
3W-061212 E	EM	886248	0.0900	955	ND	0.0045	BAS	BAS
3W-061212 S	EM	886249	0.0900	949	ND	0.0045	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

Reservoirs Environmental, Inc. Reservoirs Environmental QA Manual Effective January 1, 2012
T:\QAQC\Lab\R searvoirs Environmental QA Manual.doc

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 121898-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 237906-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description: Date Samples Received: 3rd West Sub - RMP

A ------

June 13, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

June 13, 2012

Client ID Number	Lab A ID Number		Asbestos Mineral	Asl	estos Str	ucture Typ	es*	Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for
• .			_	Fibers	Bundles	Clusters	Matrices			Concentration
3W-061212 W	EM	886246	ND	0	0	0	0	0	0	0
3W-061212 N	EM	88 6247	Chrysotile	2	0	0	0	0	0	. 2
3W-061212 E	EM	88 624 8	ND	0	0	0	0	0	0	0
3W-061212 S	EM	88 6249	ND	0	0	0	0	0	0	0

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to incorrect aspect ratio

ND = None Detected

Phone Email Fax

Heservoirs Environmental, inc.

Job#

9801 Logan St. Denvsr, CO 80216 • Ph: 303 964-1886 • Fax 303-477-4276 • Toll Free :e86 RESI-ENV Pager: 303-509-20 M **CONTACT INFORMATION:** INVOICE TO: (IF DIFFERENT) Contact: Company: Emironmenta hone: Address 47 W 9000 5 #2 Sandy M. ByDTD СеМрвоег Project Number and/or P.O. #. Leve erreniro com Project Oet cription/Location: 300 West Sub RMIP VALID MATRIX COOES ASBESTOS LABORATORY HOURS: Weekdays: 7am - Tpin REQUESTED ANALYSIS LAB NOTES: RUSH (Same Day) PRIORITY (Next Day) STANDARD Air = A Bulk = B (Rush PCM = 2hr, TEM = 6hr.) Dust = D Paint = P CHEMISTRY LABORATORY HOURS: Weekdays: 8am - Spm Soli = S Wipe = W Metal(s) / Dust RUSH ___ 24 hr. ___ 3-5 Day Swab = SW F = Food "Prior notification is RCRA 8 / Metals & Welding Drinking Water = DW | Waste Water = WW Point Count RUSH ___ 5 day ___10 day regulated for RUSH Fume Scan / TCLP O = Other turnarounds.** "ASTM E1792 approved wips media only" 24 hr. ___ 3 day ___ 5 Day MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm Long report, E.coll O157:H7, Coliforms, S.aureus 24 hr, ___2 Day Salmonelia, Listeria, E.coli, APC, Y & M 46 Hr. 3-5 Day Mold RUSH 24 Hr 48 Hr _3 Day Short report, "Turnaround tones establish a taboratory priority, subject to laboratory volume and are not guaranteed. Additional tees opply for afforhours, weekands and holidays.** Matrix Code Special Instructions: EM Number (Laboratory Time Data Use Only) Collected Collected Client sample ID number (Sample ID's must be unique) hh/mm a/p 3W-061212 W × 3N-061717 N 3W 061212 E 3W-061217 (Additional samples shall be listed on attached long form.) NOTE: REI will analyze incoming samples based upon infornation raceived and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By aligning cliant/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an enalytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest eurobarge. Relinquished By Dale/Time: Sample Condition: Inlact) Laboratory Use On 6427 196D Temp. (F°) Yes Yest/No Yos / No Received By: Date Q fime Ot 1 Initials A Contact Phone Email Flax Time Initials

Contact

Initials

Time

Phone-Email Fax

Date

Time

Initials

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

A =	Amosite	F =	Fiber
An =	Anthophyllite	B =	Bundle
C =	Chrysotile	C =	Cluster
Cr =	Crocidolite	M =	Matrix
T =	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron

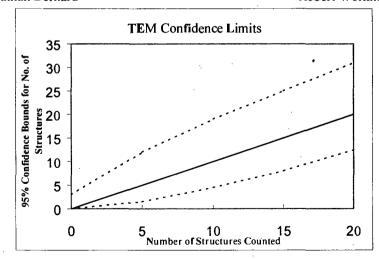
1.80 length units = 0.5 micron

18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX IOKX
Grid opening area (nim2)	0.01
Scale: 1L=	0.28 um
Scale: 1D=	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	· · · · · · · · · · · · · · · · · · ·
QA Туре	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	268
Date received by lab	6/13/12
Lab Job Number:	237906
Lab Sample Number:	886246

F-Factor Calculation (Indirect Preps Only):				
Fraction of primary filter used				
Total Resuspension Volume (ml)				
Volume Applied to secondary filter (ml)				

Analyzed by	M
Analysis date	6/13/12
Method (D=Dlrect, I=Indirect, IA=Indirect, ashed)	Ď
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Oimer	sions	Identilication	Mineral Class				1 = ye	es, blank	= no
	Cha Operang	Туре	Primaty	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	F3-3	MO												
	23-3	M			Pres	A	80%	nower 5	10%	del	m			
	C3-3	M												
	B3-3	ND												
3	45-3	M			the	1 13	60%,	Mast 5	10%	Ser	ono	·		
	F5 3	M												
	25-3	M				4							·	
	65-3	W		·										
							·							

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX IOKX
Grid opening area (mm2)	0.01
Scale: 1L =	0,28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	RIR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	959
Date received by lab	6/13/12
Lab Job Number:	237906
Lab Sample Number:	886247

Analyzed by	M
Analysis dale	6/13/12
Method (D=Direct, I=Indirect, iA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	44
Grid storage location	Month Analyzed
Scope Alignment	Dale Analyzed

F-Factor Calculation (Indirect Preps	Only):	
Fraction of primary filter used	1	
Total Resuspension Volume (ml)		
Volume Applied to secondary (liter (ml)		

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	nsions	Identification	Mineral Class	,			1 = y	es, blank	= no
Sila	Gird Opening	Туре	Primary	Total	Length	Width	racmineation	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
LA.	F5-1	M						•						
	951	M												
	C5-1	W			Prep	A	70%	intact	53	10%	delorós			
	B57	ΔΩ			R	or B	nA							
8	H3-4	M												
	43-4	M												
	F3-4	M				,								
	E3-4	F		\	2	Ü	US		-		1	1		
	Con	F		2	2	1	Cp		-					
							1							

LA = Libby-lype amphibole

OA = Other (non-Libby type) amphibole

C = Chrysolile

NAM = Non-asbestos material

T:\Worksheet in TEM Banch sheet.doe

Reservoire Environmental, Inc. TEM Asbestos Structure Count

	<u> </u>
Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2) Secondary Filter Area (mm2)	385
QA Type	

Client :	RIR
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	955
Date received by lab	6/13/12
Lab Job Number:	237906
Lab Sample Number:	886248
•	

Analyzed by	-MC
Analysis date	6/13/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	Ð
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	_

Grid	Grid Opening	Structure	No. of Str	uctures	IDime	Dimensions		Dimensions		Mineral Class				1 = y	es, blank	= no
Ond	Ond Opening	Туре	Primary	Total	Length	Width	identification	Amphibole	C NAM		Sketch/Comments	Sketch	Photo	EDS		
A	64-3	M														
	P4-3	M			Pro	p A	90%	interce	5-	16/	debis					
	EM-3	M												<u></u>		
	(4-3	W)									·					
	B4-3	M			Pn	er B	70%	intact:	5-10	2-	lebro					
B	H3-1	M											·			
	63-1	M			·											
	F3-1	MO														
	83-1	M						·								

LA = Libby-lype amphibole

OA = Other (non-Libby type) amphibole

C = Chrysbtile

NAM = Non-asbestos materiai

T:\Worksheet in TEM Banch sheet.doo

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grkl opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filler area (mm2)	385
Secondary Fliter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	949
Date received by lab	6/13/12
Lab Job Number:	237906
Lab Sample Number:	886249

F-Factor Calculation (Indirect Preps Onty):							
Fraction of primary filter used							
Total Resuspension Volume (ml)							
Volume Applied to secondary filter (ml)							

Analyzed by	M
Analysis date	6/13/12
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	44
Grid storage tocation	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	nctures	Dime	nsions	Identification	Mineral Class				1 = yes, blan		= no
Gilu	Grid Opering	Туре	Primary	Total	Length	Width	identification	Amphibole	C NAM		Sketch/Comments	Sketch	Photo	EDS
A	113-4	.M)												
	634	M			Ri	er A	988	males 5	-10/	ر سا	lebro			
,	F3-4	M												
	23-4	M			P	ver	Buf							
	63-4	M												
B	93-4	M												
	F3-4	M												
	E3-41	M												-
	(34	M					 							
					·									

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:Worksheet in TEM Bench sheel.doc

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected oh 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted } x \text{ Average GO Area (mm)}$

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



June 15, 2012

Laboratory Code:

res Na

Subcontract Number: Laboratory Report:

RES 238014-1 None Given

Project # / P.O. #
Project Description:

3rd West Sub - RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 238014-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 238014-1

Client:

R & R Environmental None Given

Client Project Number / P.O.: Client Project Description: Date Samples Received:

3rd West Sub - RMP

June 14, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date	Sample	s Analyzed:

June 15, 2012

Client	Lab	Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID Number	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
		(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-061312 W	EM 886482	0.1000	848	ND	0.0045	BAS	BAS
3W-061312 N	EM 886483	0.1000	848	ND	0.0045	BAS	BAS
3W-061312 E	EM 886484	0.1000	848	ND	0.0045	BAS	B AS
3W-061312 S	EM 886485	0.1000	848	ND	0.0045	B AS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

Due Date: 61 Due Time:

JOD# Page 1 of

RESCAB RESERVOITS ENVIRONMENTAL, INC. 5801 Logan St. Donvor, CO 80216 · Ph: 303 964-1888 · Fax 303-477-4276 · Toll Froe :S66 RESI-ENV Pager: 308-509-2098

	· · · · · · · · · · · · · · · · · · ·	INVOICE TO: (IF	DIFFE	ERENT)							CC	NTAC	T IN		IATION:				
Company:	24/2 Environmental	Сотрапу:				Cont	xct: D	ive	(kes	cello	_				Contact:					
Address: (47 W 98908 #2	Address:				Phon	0 ;			<u> </u>	<u> </u>				Phons:					
	Sandy UL 84070					Fax:		25.	n						Fax:					
Denis on No.	ber and/or P.O.#:	<u> </u>					eger: (301	541 Eman A	-10	5				Cellipag	ar;				
	TripaovLocation: 32 UJES SUB - RMP				<u> </u>				<u></u>		ם וכ	om								
ASBEST	TOS LABORATORY HOURS: Weekdays: 7am - 7pm			. 1,5		REQUE	STED	ANA	LYSIS	3	· : .			VAL	IO MA	TRIX CC	DES	L	AB NOT	ES:
PLM / PC	TOS LABORATORY HOURS: Weekdays: 7am - 7pm RUSH (Same Day) K PRIORITY (Next Day))STANDARD			T			\top			T			Air =	A	В	ulk = B			
CHEMIC	(Rush PCM = 2hr, TEM = 6hr.) STRY LABORATORY HOURS: Weekdays: 8am - Spm			-					1					usi = ioli =			amt = P ipe = W °	 		
Metal(s) /							- 1 1	1	1 1 1	- { }		1		ab =			= Food			
1	/ 88 . A - I - 15 14/ 1 - I	**Prior notification is	# E			_			g		-						Water = WW	-		
	an / TCLP 5 day10 day	required for RUS if turnareumts.**	8 3	. g]	Scan	-		2	- }	. 8	ES				Olher		1		
Organics			E C	- 0- 1	1	Metals	111		Len Len	5 6		ρ	"AST	M E1	792 app	roved wipe	media only**			
	BIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pir		Long report, Point Count	. ·E		Ž	- []		x 8	Quantification	ᅙ	LS OR OTHER !								
	57:H7, Colifornis, S.aureus24 hr2 Day		§ §	SO-PA		١١		1	ount: +/- or Quantification		ឱ្∫ន	6					1			
r e	illa, Listeria, E.coli, APC, Y & M 48 Hr3-5 Day		6 =		Respirable	اق		÷	# ag	1 1	Quantification	S.		l i				ļ		
Mold		48 Hr 3 Day 5 Day		Cro-vac, 74008.	Sp	(S) 88					2 8	ALS			j		i		<u> </u>	
- Turnarou	und toned establish a laboratory priority, subject to laboratory volume and ar apply for aftertrours, weekenda and holidays.**	re not guaranteed, Additional tees	Short report.	ر ا ا		METALS - Analyte(s) RCRA 8, TCLP, Welding Fume,	ORGANICS - METH Safmonella: +/-	7 7		* +	- اد - اد	E .	Sample Volume (L) / Area	ا ۔ ا	ر ا		ļ		—	
Special In	nstructions:	<u></u>	tot a	quant, Mi	- Total,	4 5	တ္ပုံ 🗟	힐	r. Pa	E S	* *	8	Š ,	S	# Containers	. 1		EM N	ımbara	.aboratory
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Client s	sample ID number (Sample ID's must be unique))	2 2		DUST	꺲	8 1		ROBIO			SAM	Sar (E)	Matrix	ع ا	Collected mmp/dd/yy	Collected	ļ		
134	J-06(312W		×							$\top \top$			848	A		listiz		€8	NOC	23
2 3W	1061312M					:: :							848						\overline{I}	83
3, 3W	: 061317 E												848						T	€ 4
3 ZW	1-061312 3										<u>.</u>		848	→	[_	V			至	ट्य
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9							$\perp \perp$	\perp		$\perp \perp$	\perp									
10		^		_		_:							·. :							
		nal samples shall be listed on a		_			_													
NOTE: analysis	REI will analyze incoming samples been upon information received and will not be re s as indicated on this Chain of Custody shall constitute an analytical aenvices agreeme	esponsible for enura or omisskins in ca int with gayment terms of NET 30 days	iculations , falkure t	s resulting to comply	i from th with pa	ymant ten	icy of o∄ 19 [⊓ay r€	andt in	a 1.54kg	ining clie tonthly in	int/con terest	npany (6p: surcharps	esentative	agrae	s that au	bmission of	the following sa	mples for n	iquested	
Relingu	uished By: Justin	Food &		Oa	te/Tim	ne: 6	lizi	12			_		San	nple i	Conditi	on: C	n Ice S	ealed	Intac	, T
	tory Use Only	Time: 6(c) (2	_@.				F	کے	=						°)	-	s/No Y			
Results:	Conlact Phone Email Fax Date	Time Initia		Conlac		<u>~amel.</u>		ne E	mail F	ax			Date			Time		Initi	als	{
	Contact Phone Email Fax Date	Time Initia	ıls	Contac					mail F				Date			Tim		Initi		

4, 4936 6428 1518 7-2011_version 1

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

		•		
Α	=	Amosite	$\mathbf{F} =$	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
Т	_	Tremolite		

- Hemonie

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

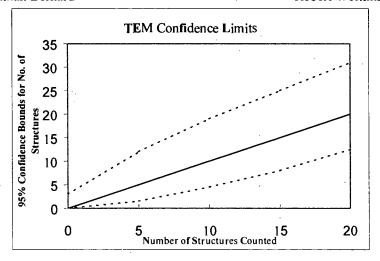
Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron

18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

l aboraton	REI
Laboratory name:	
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Maanification	20KX 10KX
Grid openina area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	Ruk
Samcle Type (A=Air, D=Dust):	1
Air volume (L) or dust area (cm2)	848
Date received by lab	6/14/12
Lab Job Number:	238014
Lab Sample Number:	886482

Lab Sample Number:	886482				
F-Factor Calculation (Indirect Preps	Only):				
Fraction of primary filter used					
rotal Resuspension Volume (ml)					
/olume Applied to secondary litter (ml)					

Analyzed by	JB
Analysis date	6/15/12
Method (D=DirecL I=Indirect, IA=IndIrect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Stmcture	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = ye	s, blank	= no
Cild	Ond Opening	Туре	Primary	Total	Length	Width	identineation	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H4-4	QN									•			
	644	ND			Tre	D A	- 70	Tacabar	6	5-1	2% de lan	<u> </u>		
٠,	F44	ND			Pux	B	80	Lichert	7.	5-10	hens			
	E4-4	ND)			6				
	E4-3	ND							11	5 6	lida			
B	63-1	MO			-					/	7			<u> </u>
	H3-1	ND						/		,				
	G3-1	ND												
	63.3	MP												
	H3-3	ND												

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Maanification	ZOKX IOKX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0,056 um
Primary filler area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

I EM 7 (00 CO CO CO CO	Table South
Client :	Kuk
Sample Type (A=Air, D=Dus():	1
Air volume (L) or dust area (cm2)	४५४
Date received by lab	6/14/12
Lab Job Number:	238014
Lab Sample Number:	886483

ويد
6/15/12
<i>FD</i>
AH
Month Analyzed
Date Analyzed

F-Factor Calculation (Indirect Preps Only):						
Fraction of primary filter used						
Total Resuspension Volume (ml)						
Volume Applied to secondary filter (ml)						

Grid	Grid Opening	Stmcture	No. of Str	ructures	Dime	nsions	Identification	Mineral Class	,,			1 = ye	s, blank	= no
Gild	Grid Opening	Туре	Prtmary	Total	Lenath	Width	locitistoction	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H4-4	ND												
,	64-4	M			P	as A	+B 8	Dolo onh	nf	5	Edelens			
	F4-4	ND				.								
	F3-3	ND					16	1						
	£3-3	M					LD 6/1	5/12					,	
B	H31	ND					/ /	/		· ·				
	63	M				, 								
	F3-1	ND					,							
	E3-1	2												
	C3-1	MD												

Reservoirs	Environmental, inc.
TEM Asbes	tos Structure Count

Laboratory name:	REI
Instmment	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	2010X 10KX
Grid openina area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	Ruk
Sample Type (A=Afr, D=DrsQ:	A
Air volume (L) or dust area (cm2)	848
Date received by lab	6/14/12
Lab Job Number:	238014
Lab Sample Number:	886484

F-Factor Calculation (Indirect Preps O	nly):
Fraction of primary filter used	
Total Resuspension Volume (m)	
Volume Applied to Secondary fitter (mf)	

Analyzed by	JB
Analysis date	6/15/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	Ty.
Counting mles (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid `	Grid Opening	Strncture Type	No. of Structures		Dimensions		Identification	Mineral Class				1 = yes, blank = no		
			Primary	Total	Length	Wkith	1-011111001011	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K4-6	ND			7.	A	XO"	hunhord	1	Toda	bus			
	H4-6	M			2	6 B	600	binhut	5	% Je	lass			
	64-6	10							16					· ·
	F4-6	M						4	5 61	15/12				
	E4-6	M								/				
B	14-1	₹												
	Ha-1	M												
	144-1	2		·	·			<i>*</i>					·	
	H3-1	V		,										
	63-	MD												

Reservoirs Environmental, inc. TEM Astrestos Structure Count

Laboratory name:	REI .
Instmment	JEOL 100 CX 11 (S)
Voltaae (KV)	100 KV
Maanification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scate: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Cllent:	RUR
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	848
Date received by lab	6/14/12
Lab Job Number:	238014
t.ab Sample Number:	886485

Analyzed by	JB
AnaNsis date	6/15/12
Method (D=Direct, I=Indirect, IA=Indirect, astied)	D
Counting mtes (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

ıry filter a	area (mm2)	38	15	Fraction of primary filter	rused	
ndary Fill	ter Area			Total Rasuspension Vo	lume (ml)	
уре				Volume Applied to seco	endary filter (ml)	
		γ			1	·
rid G	rid Opening	Structure	No. of Stmctures	Dimensions	identification	Mineral Class

Grid	Grid Opening	Structure	No. of St	mctures	Dime	nsions	identification	Mineral Class		Mineral Class			1 = ye	s, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	Amphibole C		Sketch/Comments	Sketch	Photo	EDS	
A	K4-4	ND					.·								
-	H4-4	MD			2	s A	70%	e cahief	3-	5%	Lebus				
	6144	M			Pu	DR	60%	ushut	33	/	lebus				
		MD						16 4 4 2	the	/	/				
	H43	N						4	B	5/13/	12				
B	K4-3	MT						' /							
	H4-3	M													
	64-3	MD		·											
	F4-3	M													
	E4-3	ND													

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definifion given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{A verage GO area (mm}^2)} \times \frac{\text{IL}}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



June 18, 2012

Laboratory Code: Subcontract Number:

RES NA

Laboratory Report: Project # / P.O. #

RES 238163-1 None given

Project Description:

3rd West Sub-RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer.

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 238163-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 238163-1

Client:

R & R Environmental

Client Project Number / P.O.:

None given

Client Project Description:

3rd West Sub-RMP

Date Samples Received:

June 15, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

June 18, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter	
ID Number	ID No	umber	Analyzed	Volume Sampled	Astrestos Structures Detected	Sensitivity	Concentration	Loading	
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)	
3W-061412W	EM	886895	NA	913	NA	Sample rejected	d-unable to prep due to	heavy debris	
3W-061412N	EM	886896	0.0900	913	ND	0.0047	BAS	BAS	
3W-061412E	EM .	886897	0.0900	913	ND	0.0047	BAS	BAS	
3W-061412S	EM	886898	NA	911	NA	Sample rejected due to loose debris			

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm



7985 1414 4000

RES	2381	163
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S801 Logan St Denver, CC 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Tof Free :868 RESI-ENV

·	Pager : 383-509								-											1 ugu _		•, _		_
	INVOICE TO: (IF	DIF	FERE	NT)			-				 , ,		С	ONT	ACT			MATI	ON:					
Company: 4 & R Emironmental	Company:		<u>. </u>			Cont		M	re!	<u>(Cy</u>	be le	1					Contac							
Address: 47 W COODS #2	Address:						Phono:									Ptiene:								
Sandy, Ut 84070						Fax:				7							Fax:							
Project Number and/or P.O. #:	<u> </u>						poger: Il Data C	80) (<u>{</u>	<u> </u>	-103	35					Cell/pa	gsr:						
Project Description/Location: 3 12 W264 Suito - RMP											win	<u> </u>	244											ļ
ASBESTOS LABORATORY HOURS: Weekdays: 7ani - 7pm			303	- 1 - 1	RI	EQUE	STE	D A	NAL	YSI	s	7 (1.1.		100		VAL	D M	ATRI	х со	DES		LAB	NOTE	S:
PLM / PCM / FEM RUSH (Same Day) PRIORITY (Next Day	/)STANDARD	П	<u> </u>	TT	T			\Box		\top	\sqcap	П				\ir = .		I		ulk = B				
(Rush PCM = 2hr, TEM = 6hr.)] '	-			1					i				Dı	ust =	D		Pa	int = P				
CHEMISTRY LABORATORY HOURS: Weekdays: Bam - Spm] '	}					11			i				S	oil =	s		Wij	pe = W				
Metal(s) / Dust RUSH 24 hr3-5 Day	**Prior notification is	'	Ħ						,	ا اـ	,					ab =				= Food				
RCRA 8 / Metals & Welding RUSH 5 day 10 day	required for RUSH	Count	o a	1		Scan			إ إ	ğ.	, '	§	<u>.</u>	Dri	nking	Wat				Nater = W	w L			
rume Scan / TCLP	turnarounds.**	5				S S			1	를	.	Hankan		_) = Oth			$-\!$			
Organics 24 hr 3 day 5 Day	<u>- 1</u>	Paint	SO.			Metals				3	S S		2	"ASTM E		M E1	/92 ap	proved	wipe r	madia only*	-			
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm E.coll 0157:H7, Coliforms, S.aureus 24 hr. 2 Day	m3-5 Day	뒿	1 22 E	4			.		;		Quantification Quantification	ğ	INITIALS OR OTHER NOTES						İ	i	-			
Salmonella, Listeria, E.coli, APC, Y & M 48 Hr 3-5 Day		텵	7402 SO-Ind	OSHA		Furne,			;	취물	rant man	ig ig	5 5							i	<u> </u>			
	y 48 Hr 3 Day 5 Day	E S	18 OE 11 OE 11 OE		Respirable	yte(s) Welding	. }	+			1 1	G Lan	Ö				.			i	-			
*Turnaround timen establish a laboratory priority, subject to laboratory Volume and a			Z E	74.00B,	§	yte(s Wet	핕	÷ <u>÷</u>	8	5 0	ō 5	8 3	3	1.						i				
apply for aßerhouru, weekends and traildays.**	3.3	l ĕ	\$ ₹			- Anal) TCLP,	ةٍ الإلا	57.H	\	1 2	F		. <u> 5</u>	۱ğ	,	0	اع		}	ı				75
Special Instructions:		S of	AHERA, Jant, Mic	7400A	Total.	2	ORGANICS - METH	5 5	. <u>i</u> gi .j	<u>.</u> 6	Coliforms S.aureus:	¥ 3	MPLERS	Sample Volume	æ	Soge	# Containers			i	EM	Num	her A .	aboratory
	. !		• ক	1 . 1	E .	METALS RCRA 8,	NA IS		ts 5	8 8	Colifornia S. aureus	Y & M		=	(L) / Area	Æ	盲	Dat		Time			e Only)	
Client sample ID number (Sample ID's inust be unique	a)	15	Semi	₩.	PUST	RCRA	8	-1	MICE	ىنىن	DLOGY	,	78	Sar	Ē	Matrix	٥ *	Colled mgn/d		Collecte		7.13	·* :	
1 3W 061412 W		Γ	×	\prod	\top			\top					1	_	13	A		614	1		7	386	893	5
2 3W-061412N					1,3	18 miles	178			73			1	9	[3			- J.					790	<u> </u>
3 3W 261412 E						<u></u>		++1		11			1	ai	3		\Box	\top				<u> </u>	89	7
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NOTE: REI will analyze incoming samplas basad upon information received and will not be re analysis as indicated on this Chain of Custody shall constitute an analytical services agreem	responsible for arrora or omissions in cr tent with payment terms of NET 30 day	eicula /s, fail	illons res ure to co	uiting fr mply w	rom the	e ineccu /ment te	racy of rone ma	odgina y rasu	al data dt in a	a. By s	igning o	lient/c intere	ompany r st surcha	eprese rge.	ntative	agre	es itiat	: submis	usion of	the following	, semples	for reque	ested	
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Results: Contact Dave Phohe Email Fax Date to	Time 2345P Initia	ials	7H Cc	onlaci	-			hone	e Æn	nal	ax			Dat	te				Time	е		Initials		***************************************
Conlact Phone Email Fax Date	Time Initia			onlact					$\overline{}$	nail F				Dat	te				Time	e		Initials		

Attachment I

Key to Count Sheets Count Sheets Anaiyticai Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Structure Types F = Fiber B = Bundle C = Cluster

Cr = Crocidolite T = Tremolite

ND = no structures detected

M = other structure associated with a matrix

M = Matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

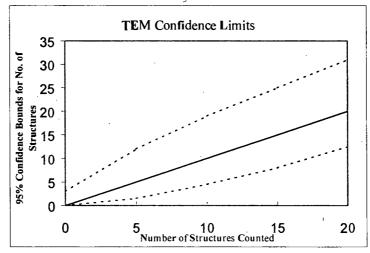
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, 1nc. TEM Asbestos Structure Count

Laboratory name:	REI					
Instrument	JEOL 100 CX N S					
Voltage (KV)	100 KV					
Magnification	20KX 10KX					
Grid opening area (mm2)	0.01					
Scale: 1L =	0.28 um					
Scale: 1D =	0.056 um					
Prlinary filter area (mm2)	385					
Secondary Filter Area (mm2)						
QA Tyoe						

Client :	Rapa
Sample Tyoe (A=Alr, D=Dust):	. A
Air volume (L) or dust area (cm2)	913
Date received by lab	6/5/2
Lab Job Number:	238163
Lab Sample Number:	886897

Analyzed by	AH
Analysis date	6/18/12
Method (D=Direct, I=Indlrect, IA=Indirect, ashed)	Δ
Counting rules (ISO, AHERA, ASTM)	Ahorn
Grid storage location	Month Analyzed
Scope Alignment	Data Analyzed

F-Factor Calculation (Indirect Preps Only):						
Fraction of primary filler used						
Total Resuspension Volume (ml)						
Volume Applied to secondary filter (mi)						

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = ye	es, blank	= no	
Giiu	Grid Opening	Туре	Primary	Total	Length	Width	dentineation	Amphibole	c	NAM	Sketch/Comments	Sketch	Photo	EDS	
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		Sa	م م او	50-0	cted	- 20	able +	v Prep d	ve -	to he	my deb	hs /	ence	ipsuh	nt
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										,					
															

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX NS
Voltage (KV)	100 KV
Magnification	20k)x 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	Rak
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cni2)	913
Date received by lab	6/15/12
Lab Job Number:	238163
Lab Sample Number:	886896

F-Factor Calculation (Indirect Preps Only):					
Fraction of primary filter usad					
Total Resuspension Volums (m0					
Volume Applied to secondary filter (ml)					

Analyzed by	AH
Analysis date	6/18/12
Method (D=Dlrect, l=Indirect, IA=Indirect, ashed)	
Counting rules (ISO, AHERA, ASTM)	Abera
Grid storage locatkin	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	nsions	Identification	Mineral Class	· · · · · · · · · · · · · · · · · · ·			1 = ye	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	_с	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H4-1	MD		·						٠.				
	64-1	ND					,							
	F4-1	MO		Pie	A: 9	0900	ntact	541	eba	S				
	E4-1	MD		Pie	BA	Prec	4							
	C4-1	2												
B	664	M												
	Floy	$\triangle \nabla$							·					
	E5-6	MD			X									
	C5-6	NO												-
					·									

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	(20K)X 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	RAR
Sample Type (A=Air, D≂Dus0:	A
Air volume (L) or dust area (cm2)	913.
Date received by lab	6/15/12
Lab Job Number:	238163
Lab Sample Number:	886897

Analyzed by	A#
Analysis date	6/18/12
Method (D=Dlrect, t=Indirect, tA=Indlrect, ashed)	Д
Counting rules (ISO, ANERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Cak:ulation (Indirect Preps Only):						
Fraction of primary filter used	·					
Total Resuspension Volume (ml)						
Volume Applied to secondary filter (mi)						

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	nsions	identification	Mineral Class				1 = ye	s, blank	= no
Ond	Ond Opening	Туре	Primary	Total	Lenath	· Width		Amphibole	_ c	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H4-6	MD												I
	64-6	MD						, .						
	Fyb	M		Piec	A: 8	29 m	tact	5% de	65					
	E46	ND		Pres	B:7	5/2	Hact	5/2	ebr	S				
	C4-6	M		U				·						
B	F3-3	MD												
	E3.3	MO												
	C3.3	M						Ø						
	333	ND						/						

Page	1	of	

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N(S)
Voltage (KV)	100 KV
Magnification	(20K)X 10KX
Grid opening area (mm2)	0,01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	· · · · · · · · · · · · · · · · · · ·
QA Type	

Ctient :	Rap
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	911
Date received by lab	6/15/12
Lab Job Number	238163
Lab Sample Numben	886898

	
Analyzed by	AH_
Analysis date	6/18/12
Method (D=Olrect, I=Indirect, 1A=Indirect, ashed)	0
Counting miles (ISO, AHERA, ASTM)	1/
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):
Fraction of primary filter used

Total Resuspension Voluma (mi)

Volume Applied to secondary titler (mi)

Sample re-exted for Albera due to loose debris. +1- requested 1 = yes, blank = no Structure No. of Structures Dimensions Mineral Clasa Grid Grid Opening Identification Type Primary Total Length С MAM Sketch Photo **EDS** Width **Amphibole** Sketch/Comments (2) 70% intact E4-

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Eauations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\#-Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{A verage GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, $s/mm^2 = \frac{\# \ Asbestos \ structures}{Area \ Analyzed \ (mm^2)}$

GO = TEM grid opening



June 19, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 238260-1 None given

Project Description:

3rd West Sub-RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy, (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 238260-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0016

TABLE 1. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 238 260-1

·Client:

R & R Environmental

Client Project Number / P.O.:

None given

. Client Project Description: Date Samples Received:

3rd West Sub-RMP

June 18, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

June 18-19, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID Number Analyzed Volume Sampled		Asbestos Structures Detected	Sensitivity	Concentration	Loading		
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-061512W	EM	887177	0.1000	808	1	0.0048	0.0048	10.0
3W-061512N	EM	887178	0.1000	808	ND	0.0048	BAS	BAS
3W-061512E	EM	887 179	0.1000	808	ND	0.0048	BAS	BAS
3W-061512S	EM	887180	0.1000	806	ND	0.0048	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 238260-1

Client:

R & R Environmental

Client Project Number / P.O.:

None given

Client Project Description:

3rd West Sub-RMP

Date Samples Received:

June 18, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

June 18-19, 2012

Client ID Number	· · · · · · · · · · · · · · · · · · ·					oes*	Structures >5 Microns in Length	s Structures	Asbestos Structures for	
			_	Fibers	Bundles	Clusters	Matrices			Concentration
3W-061512W	EM	887177	Chrysofile	1	0	0	0		0	1
3W-061512N	· EM	887178	ND	0	0	0	0	0	0	0
3W-061512E	EM	88717 9	- ND	0	0	0	0	0	0	0
3W-0S1512S	EM	887180	ND	0	0	0	0	0	0	0

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to incorrect aspect ratio

ND = None Detected

SSOI Legen St, Denver, CO 80216 · Ph: 303 984-1996 · Fax 303-477-4275 · Toll Free :866 RESI-ENV Pager : 303-500-2058

Salar or		
400 W		
Page	1 of	

Company: A Signature Major P.O. 8: Phone: Ph
Source S
Calipacor: Calipa
Final Data Definerable Email Address: Project Description/Location: 2 Do West Sub FAMP ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm REQUESTED ANALYSIS VALID MATRIX CODES LAB NOTES: Oust = 0 Paint = P Soil = S Wipe = W Final Data Definerable Email Address: Caux @ rrequirit .com Ar = A Bulk = B Oust = 0 Paint = P Soil = S Wipe = W Soil = S Wipe = W Final Data Definerable Email Address: Caux @ rrequirit .com Ar = A Bulk = B Oust = O Paint = P Soil = S Wipe = W Final Data Definerable Email Address: Caux @ rrequirit .com Ar = A Bulk = B Oust = O Paint = P Soil = S Wipe = W Final Data Definerable Email Address: Caux @ rrequirit .com Ar = A Bulk = B Oust = O Paint = P Soil = S Wipe = W Final Data Definerable Email Address: Caux @ rrequirit .com Ar = A Bulk = B Oust = O Paint = P Soil = S Wipe = W Final Data Definerable Email Address: Caux @ rrequirit .com Ar = A Bulk = B Oust = O Paint = P Soil = S Wipe = W Final Data Definerable Email Address: Caux @ rrequirit .com Final Data Definerable Email Address: Caux @ rrequirit .com Final Data Definerable Email Address: Caux @ rrequirit .com Final Data Definerable Email Address: Caux @ rrequirit .com Final Data Definerable Email Address: Caux @ rrequirit .com Final Data Definerable Email Address: Caux @ rrequirit .com Final Data Definerable Email Address: Caux @ rrequirit .com Final Data Definerable Email Address: Final Data Definerable Email Address: Final Data Definerable Email Address Fi
ASBESTOS-EARORATORY HOURS: Weekdays: 7am - 7pm RUSH (Same Day) D. PRIORITY (Next Day) STANDARD (Rush PCM 2hr, TEM = 6hr.) CHEMISTRY LABORATORY HOURS: Weekdays: Sam - Spm Metal(s) / Dust RUSH _ 24 hr 3-5 Day RCRA 8 / Metals A Welding
PLM / PCM TEM
(Rush PCM = 2hr, TEM = 8hr.) CHEMISTRY LABORATORY HOURS: Weekdays: Sam - Sprn Metal(s) / Dust
CHEMISTRY LABORATORY HOURS: Weekdays: Sam - Spm Metal(s) / Dust
Metal(s) / Dust
RCRA 6 / Metals A Welding Fume Scan / TCLP Organics 24 hr. 3 day 5 Day MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm E.coil O157:H7, Coliforns, S.aureus 24 hr. 2 Day 3-5 Day Salmonella, Listeria, E.eoti, APC, Y & M 48 Hr. 3-5 Day "Prior notification is required for RUSH turnarounde." 15 day 10 day required for RUSH turnarounde." 15 day 10 day required for RUSH turnarounde." 15 day 10 day required for RUSH turnarounde." 15 day 10 day Prior notification is required for RUSH turnarounde." 15 day 15 day 16 day 17 day 18 day 18 day 19 day 18 day 19 day 18 day 19 day
Fume Scan / TCLP Organics 24 hr3 day5 Day MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm E.coil O157:H7, Coliforns, S.aureus 24 hr2 Day3-5 Day Salmonella, Listeria, E.eoti, APC, Y & M48 Hr3-5 Day O = Other "ASTM E1792 epproved wipe media only** O = Other "ASTM E1792 epproved w
MICROBIOLOGY LABORATORY HOURS: Weekdays: yam - 6pm 2
MICROBIOLOGY LABORATORY HOURS: Weekdays: yam - 6pm 2
E.coli O157:H7, Colifonns, S.aureus 24 hr. 2 Day 3-5 Day 8 2 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
Salmonella, Listeria, E.eoti, APC, Y & M48 Hr3-5 Day
Mold
Mold RUSH 24 Hr 40 Hr 3 Day 5 Day "Tumaround times esteblish a laboratory priority, eubject to laboratory volume and are not guaranteed. Additional fees apply for afferhouse, woekenda and holidays."
Salmonella, Listeria, E.eoti, APC, Y&M 48 Hr3-5 Day Mold RUSH 24 Hr 4e Hr 3 Day 5 Day "Tumaround times esteblish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays." Special Instructions:
o を 年 c 、 (の a 字 在 方 方 方 方 方 方 方 方 方
13w 7652W X 1992 808 A 1992 887177
2 3W-061512 N
3 3w-061512 E
4 3W-061512 S 806 V V 80
5
6
7
8
9
10
Number of samples received: (Additional samples shall be listed on attached long form.)
NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or ornissiors in calculationa resulting imm the inaccuracy of original data. By signing clioni/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain or Custody shall constitute an analytical services agreement with payment tanas of NET 30 days, (siture to compty with payment terms may result in a 1.5% monthly microat auroharga.
Relinquished By: My Sample Condition: On Ice Sealed Intact
Received By: Date/Time: 6 18 12 9:30 Ct Carrier: Hand Temp. (F°) Yes/No Fes/No Fes/No
Results: Contact Phone Email Fax Date Time Initials Contact Phone Email Fhx Date Co/972_ Time ((75_ Initials
Time CC 3-6- Initials

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F . =	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
Т	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion

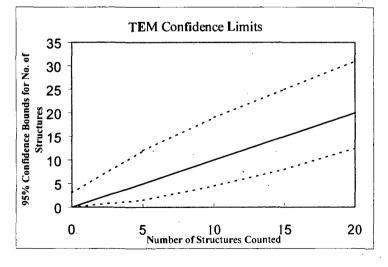
1 length unit = 5 mm on screen = 0.278 micron 1.80 length units = 0.5 micron

18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner : Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification_	20KX) 10KX
Grid opening area (mnt2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

ture count	
Rot	2
A	
808	3
10/18	12
238	260
887	177
	238

F-Factor Calculation (Indirect Preps O	nly):
Fraction of primary filter used	
Total Resuspension Voluma (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	6/18/12
Method (D=Dlreet, I=Indirect, IA=Indlrect, ashed)	D'
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

QATS 6/19

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 ≈ yes, blank = no		= no
Grid	Ond Opening	Туре	Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Phóto	EDS
A	633	ND												
	F3-3	F			3		CD		1		~			
	E3-3	ND							ļ	!	<u>.</u>			
	63-3	ND		·	(-)) .05	Ar B	~80%	inh	uf	5% de	bon.	5	
B	C4-6	ND				7 - 1				1	,			
B	K5-1	ND		, 					11	5 4	18/12			;
	H5-1	ND								. /		 		<u> </u>
	65-1	ND				:		<i>,</i>						<u> </u>
	F5-	ND												
	E5-1	CIN		<u> </u>								·		

Reservoirs Environmental, Inc. TEM Astrestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Fitter Area (mm2)	
QA Tyoe	

Citent :	ROPR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	808
Date received by lab	10/18/12
Lab Job Number:	238260
Lab Sample Ntimber:	887178

F-Factor Calculation (Indirect Preps Only):						
Fraction of primary filtar used						
Total Resuspension Valums (ml)	 					
Volume Applied to secondary filter (mi)						

Analyzed by	JB
Analysis date	6/18/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	7
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class			1 = yes, blank = no			
O.I.d	Ond Optiming	Туре	Primary	Total	Length	Width	130111110011011	Amphibole	С	NAM:	Sketch/Comments	Sketch	Photo	EDS
A	K3-4	ND									/			
	134	ND			7	mo F	14B-30%	intent	5%	del	ns			
	63-4	ND						(
	F3-4	ND					11	1/18/2						
	634	2					77	//						`
B	H4-6	ND				/								
	614-6	ND												
	F4-6	ND							٠.					
	F4-6	8			·									
	C4-6	ND											·	

Reservoirs Environmental, 1nc. TEM Asbestos Structure Count

Laboratory name:	REt
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	ZOKX IOKX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scate: 1D =	0.056 um
Primary filter area (mrti2)	385
Secondary Filter Area (mm2)	·
QA Type	

RAR
A
808
10/18/12
238260
887179

Analyzed by	AH
Analysis date	Waliz
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

F-Factor Calculation (Indirect Preps	Only):	
Fraction of primary fliter used		_
Total Resuspension Volume (mi)		
Volume Applied to secondary lilter (ml)		

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = yes, blank = no		= no
O.I.C	Grid Opening H5-4 G5-4 E5-4 C5-4	Туре	Primary	Total	Length	Width	i dendidation	Amphibole	С_	NAM	Sketch/Comments	Sketch	Photo	EDS
A	45-4													
	654							٠					·	
							1							
	ESY			Pie	A:	80%	intact	5% 1	ebri					
				i .	b .	Pies						·		
B	64-4			, ,		t								· ·
	F4-4								·					
	F4-4	·												
	C4-4			·				_						
	B4-4			·										

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	, 100 KV
Magnification	ZOKX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: ID=	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client:	RAR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	806
Date received by lab	6/18/12
Lab Job Number:	238260
Lab Sampte Number:	887180

F-Factor Calculation (Indirect Preps	Only):
Fractian of primary filter used	· -
Total Resuspension Voluma (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	AH
Analysis date	ulaliz
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	\mathcal{D}
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		14454	Mineral Class				1 = yes, blank = no		
			Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	l i	EDS
A	1-14-1	ND												
	64-1	ND		!										
	F4-1	CN,		Rec	A; 9	0%	rtact	5%	dek	2				
	E4-1	ND		Pra	B~	Prec	A					,		
	C4-1	5		, (
B	F2-4	5											·	
	E2-4	ND			0									
	024	ND												
	B2-4	4		7										
	B3-4	an												

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

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micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted } x \text{ Average } GO \text{ Area } (mm)$

Concentration, s/cc = $\frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (nun}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening